THE DELAWARE AND HUDSON COMPANY BULLETIN

Walter Silvernail

MARCH 15, 1925.

CARBONDALE YARD

we ask

Are You a Safety Firster?

IT'S the real thing in industry today and the reason is to be found below in the comparative statement of Delaware and Hudson employes killed and injured in 1918, 1923, and 1924. Read it carefully and with thoughtful deliberation. : : : :

CLASS OF SERVICE	1924		1923		1918	
	Killed	Injured	Killed	Injured	Killed	Injured
Engineers	—	22	3	44	0	37
Firemen	—	43	—	98	6	108
Conductors	—	29	1	32	1	27
Trainmen	1	185	5	265	20	267
Other Transportation	1	80	1	108	2	171
Car Department	1	31	—	106	2	329
Motive Power Department	1	82	3	333	2	405
Trackmen	5	191	4	141	6	144
Bridge and Building Men	1	36	—	29	—	38
Signal and Electrical	—	6	1	13	—	21
Other Maintenance	1	6	3	4	1	9
Stores Department	—	9	—	15	—	22
Fuel Department	—	7	—	14	—	27
All Others	—	2	—	1	—	10
TOTAL	11	729	21	1203	40	1615

SAFETY FIRST
The D&H.
BE CAREFUL

The
DELAWARE AND HUDSON COMPANY
BULLETIN

Vol. 5 Albany, N. Y., March 15, 1925 No. 6

Satisfied With Railroad Career

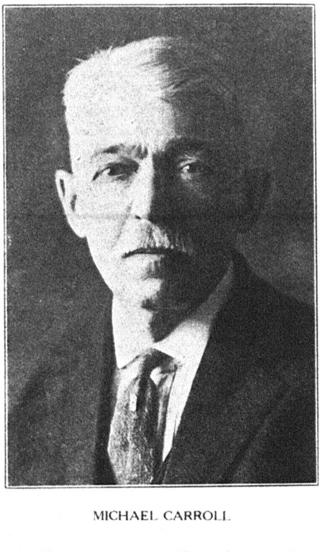
After Nearly Fifty-two Years at the Throttle, Veteran Engineer Would Make the Same Choice Again if Given the Chance

"YOU bet I would!"

With those four simple words, spoken enthusiastically and with the weight of many years back of them to substantiate their genuineness, MICHAEL CARROLL of No. 21½ Wendell Avenue, Schenectady, N. Y., retired locomotive engineer, recently passed judgment upon his choice of a career and his fifty-one years and eight months of continuous service with the Company. He was pensioned on September 1, last.

He had been asked by "JIM" GALLAGHER, retired train baggageman, who had seen many years of activity on the Susquehanna division, whether or not, "if he had it to do over again, would he be a railroad man."

Not so bad, at all! When a man can look back over an active life of fifty odd years and say, after he has relinquished his place to another for all time, that he would make the same choice again, there must be a reason. That reason may be hard to ascribe, it may be hard to point to the exact thing or condition that has led on and on without a disappointment of more than passing moment. But, if we are to believe some of the principles of psychology, the reason, primarily, must be the man himself—his attitude toward his work, if you please. That one essential alone makes for contentment and for success.



MICHAEL CARROLL

"The railroad's all right, if the men will look at it right," he continued, adding that "the most of what is done is in the interest of the men." In proof of this contention he spoke of the adoption of improved equipment from time to time, not a little of which at first aroused suspicion and much consequent antipathy, but which, when it had been given a fair trial was found to be of as much benefit to the employe as to the Company.

The conversation between the two veterans was not an unusual one, for in exchanges of this kind there is always something of a lesson that may be of value to a younger generation. Incidentally, much of their work had been done together and for that reason there was much of mutual interest about which they could talk. They are as enthusiastic railroad men today as when they were in active service and neither would be on the retired list except for the inevitable dictates of age and health.

Schenectady has always been MR. CARROLL's home. There he was born on February 15, 1859, the son of Daniel Carroll, an employe in the Ellis Locomotive Works, which business is being continued today by the American Locomotive Company. He was the third oldest of a family of eight children, five of whom were boys. Two brothers—Thomas and Daniel, Jr.—followed his choice of the railroad for a career and both, likewise, became locomotive engineers. Thomas has since died, while Daniel is still an engineer and in the employ of the Locomotive Works.

As a boy, the railroad yards were one of his greatest attractions. There with other youths of his age, he spent much time not a little of which was devoted to the risky practice of "hopping" cars as they were being switched from one track to another. He tells of how *big* they felt as they rode along, tugging meanwhile at a brake wheel. This continued a favorite pastime until some of their number had been hurt. This dispelled some of the fascination and the practice was abandoned.

He well remembers when cars were switched with a team of horses driven by Case Pulver, with "Moon" Pickett drumming the job. Then came the "Ira Brownell," named in honor of the agent at Schenectady. This had but a single pair of drivers and was built at the Dickson works in Scranton. Its boiler and tank were all on one frame. Later on, it was replaced by the Fort Edward, No. 22, a Rensselaer and Saratoga locomotive sent to the job in charge of Engineer Steensburg.

Quitting a shawl factory in Church street where he received thirty-five cents a day for the "hardest" work he ever did, he entered the employ of the Company in January, 1873. He was then fourteen years old.

Practically all of his railroad life was passed on approximately forty miles of track, or on that part of the system known as the Schenectady branch with Saratoga Springs, Mechanicville and Delanson at the points. Contrary to the idea that his might have been a very monotonous life of routine, there was ever novelty and excitement aplenty to dispel any idea of weariness due to the repetition of performance, the meeting of the same people and the traveling of the same route from day to day, week to week and year to year. He frankly admits, however, that he knows by heart every twist and turn or other physical characteristic of those few miles of track.

Track work was his first assignment. He was indeed a big man when he started out with "Dan" Garvin, his foreman, although the two comprised the "gang." His pay was eighty cents for a day of ten hours. Hours, however, were a mere consideration and compensation for overtime unheard of. Garvin, not long after, was succeeded by his brother, "Pat."

Four tracks—the main, coach and Nos. 1 and 2—comprised the yard, the three latter tracks having a capacity of about twenty-five cars each. There was the "North" and "South" yard. The former was between Union street and the Locomotive Works, and the latter included the tracks between Union and Fonda streets and those leading to the elevators. The "goose pasture," between Fonda and Center streets, and the "pig lot," between Fonda and Pond streets, are nicknames that will be recalled by older employes with all the odd reminiscences connected with them. Likewise, will the visit of the paymaster, F. C. Ward, and his assistant, C. V. Winne, with the worn leather satchel in which they carried the pay money, be remembered as a practice before the days of the pay car.

When stock strayed onto the tracks and was killed, it was a custom to take up a collection among the track and other employes of fifty cents each in order to effect a settlement with the owner. The coming of the first pump cars was an innovation in track department equipment that won much favor and such cars were forthwith rated as "speeders."

After about a year of track work, he went into the freight house to assist "Jim" Brownell, the foreman, who was a son of the agent, and, when called upon, served in the yards as an extra brakeman. For all such duties he was paid one dollar a day. The freight house work was devoted largely to the transferring of grain and other shipments from canal boats to the cars.

Next in order of his advancement, he was assigned to "drum" an engine in the "North" yard, working with William Herron, engineer, who had the No. 68, known as the "Harvey Hunt." The fuel used was a brick, the composition of which was culm and tar. It produced an intense heat, but was very mean to handle as it developed a very heavy soot that covered everything in close proximity to the firebox.

While working in the yards, his ambition for a career turned to the locomotive and he sought employment as a locomotive fireman with the result that he made his first run as such with Herron, May 20, 1879, on the R. C. Blackall, a lump burner. This was in passenger service between Schenectady and Delanson, three round trips daily being made. A combination coach and the locomotive comprised the train, all local freight being handled en route in the baggage compartment.

In 1881, when Garfield was assassinated, the locomotives were draped in black. The appearance of the No. 173, then in use at Schenectady, he remembers in particular. Streamers and rosettes of black crepe were used profusely, while on the headlight there was imposed a square and compass of the Masonic order. In the space underneath a large painting of Garfield driving a team of horses on the tow path of the Erie canal, was secured. The hand rails, sand pipes and such other parts as could be so handled, were wrapped with strips of white muslin so spaced that the appearance was that of white and

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The Air Brake and its Work

A Few of the Many Problems of Braking a Train the Modern Way Are Here Explained in an Interesting, Non-Technical Manner

By J. ARCHIE JONES, *General Air Brake Supervisor*

So familiar has become the use of the term "Air Brake" in railroad parlance that we often fail to give serious thought to the *real* purpose for which the equipment so named was designed. This may not be exactly true, perhaps, of those who are closely associated with its installation and maintenance, or those who employ it in the operation of trains, but too many, nevertheless, use it in purely a conversational sense and without real knowledge of the principles and powers to which it relates.

Air Brake Revolutionized the Work of Train Crews

The work of the train crew has been revolutionized by the introduction of the air brake, the automatic coupler and interlocking apparatus. The Loughridge chain brake, worked by the engineman from the locomotive, was apparently the first improvement over the hand brake, but this, and the Gooddale, Ambler, Cramer and other devices, failed in practical service.

On April 13, 1869, George Westinghouse patented his air brake by which power from the engine was transmitted by compressed air, carried through hose and acting upon every car in the train. The first trials were made on the Pan Handle Division of the Pennsylvania in September, 1868, and his early success was due largely to the appreciative and courageous officers of that company, Scott, Cassatt and others, who perceived its merit, realized its necessity for the future and aided in securing its adoption by all the railroads in the country.

On March 5, 1872, he brought out his triple valve attachment, making the action of the brake automatic. It remained to avoid skidding the wheels and this was brought about by a contrivance which allows the air to leak out of the brake cylinders so as to proportion the pressure of the shoes on the wheels exactly to the speed with which the latter are revolving.

The tests made in 1886 on the Burlington, and in which there were entered the American Brake Company's direct buffer brake, Eames automatic vacuum brake, Rote direct buffer brake, the Widdifield and Button friction buffer brake and the Westinghouse automatic brake, disclosed defects when applied to heavy freight trains that made it seem for the moment that the air brake was a failure. These were overcome by Westinghouse's development of his quick-acting brake, acting instantaneously on each car on the application of the power, and in case the train should become accidentally divided, acting instantaneously in each part of the train.

From Railroad Freight Transportation,
by President L. F. Loree.

Essentially, the Air Brake is to hold cars and locomotives when standing, control the speed of moving trains on descending grades and, bring them to a stop. This is accomplished through the friction that is developed when the brake shoes come in contact with the wheels against which they are applied. This friction is the real holding power so long as the wheels do not slide and is always less than the shoe pressure that causes it. With the same shoe pressure, the friction steadily increases as the speed reduces and is greatest just as the stop is completed. This is the reason why the hand or air brake holds so little at high speeds, even though heavily applied, and also why wheel-sliding is more liable to take place and shocks from brake application are more apt to occur when the speed is low.

It is easier to move a car with all wheels sliding than it would be were the brake shoe pressure considerably below that necessary to cause sliding. The amount of work the brake will have to do to stop a car is measured by the car weight, the speed and the grade. While the brake holds alike with the same shoe pressure and speed, yet the effect of loading the car is to increase the distance required for stopping and the use of more of the possible holding power to keep it from increasing down the grade.

The effect of this is in proportion to the increase in weight. That is, the brake on a car weighing 40,000 pounds empty has twice as much to do when the car has a load of 40,000 pounds, and three times as much with a load of 80,000 pounds. Putting it another way: if the brakes are in the same condition, the empty car would stop in one-third the distance required to stop a fully loaded car, because the brake on the empty car would have only one-third as much work to do. If the two cars were coupled together, the empty car would stop itself and in addition help to stop the loaded car. If the empty car was behind, the slack would run out and the drawbars would have to stand the strain equal to the difference in the effectiveness of the braking power on the two cars. But if the empty car was ahead of the load, the slack would run in and the drawbar springs would be under compression an amount equal to the difference in the effectiveness of the brakes on the two cars.

Freight cars are usually locked at 60 per cent of their light weight. Therefore, the maximum brake power on a car weighing 40,000 pounds light is 24,000 pounds, and when the car is empty there is 24,000 pounds of braking power to stop 40,000 pounds of weight. But if the same car contained a load of 80,000 pounds, there would still be but 24,000 pounds of braking force to stop 120,000 pounds of weight when the maximum braking effort was developed.

By analyzing the above, it should not be difficult to understand why the slack runs out hard and sometimes causes trains to part when the brakes are being used and if a number of empties are on the rear and the loads are ahead; nor why the slack should run in and sometimes drive drawbars in and cause a train to buckle when the empties are all ahead and the loads are at the rear. This condition is made worse as the length of the train increases.

If the braking power could be made to have the same retarding effect on cars when loaded as when empty each brake would stop its own car and the slack would not run either way, but would remain as it happened to be when the brakes were applied, providing the train was all on an even grade.

Although a train may consist entirely of loads or of empties, there are two other factors that have a direct bearing on the effectiveness of the braking power. One is the differences in length of piston travel which will from a given reduction develop different cylinder pressures and consequently a difference in braking power, and which can be corrected by inspectors. The other is the difference in grade over which the train may be passing when the brakes are applied.

For example: One part of the train may be on an ascending grade when the grade would assist the brake in stopping the cars, and another portion of the train may be on a descending grade, in which case the grade would oppose the effort of the brake to stop the cars. This condition requires care and judgment on the engineer's part in respect to the time and method of controlling the brakes so as to prevent the running of the slack in or out quickly, avoiding shocks and damage to the train.

While the loss of friction or holding power is a serious matter when the speed is raised considerably, the increased work the brake will have to do to stop the car on account of the increase of speed is not generally appreciated. To illustrate the latter, with all else the same: If the speed of a car was increased from ten to twenty miles per hour the brake would have to do four times as much work to stop it; at thirty miles per hour compared with ten miles per hour, it would have to do nine times the amount; while at forty miles per hour it would be sixteen times as great. This is due entirely to the loss of friction between the shoe and the wheel, caused by the increase in speed.

When the brakes are applied there are two forces acting on the wheels. The friction exerted by the brake which tends to prevent the wheels from turning or cause them to slide, and the adhesion between the wheels and the rails which resents this tendency to slide. The causes for wheels sliding are numerous and may be enumerated as follows:

Frosty or greasy rails which reduce the friction between the wheels and rails below that exerted by the brake; defective emergency valve in triple valves; defective triple piston packing rings; bad leakage in brake pipe, hose or coupling; stoppage of retainer valve or its exhaust port; handling of cars around yards with hand brakes set; injudicious use of brake club in setting hand brakes; very short piston travel; and, in very cold weather, brake shoes frozen to wheels.

Stopped up retaining valve pipes or retainer exhaust port will prevent the air in brake cylinders from exhausting, resulting in a very high pressure, and is liable under certain conditions to cause wheels to slide. The small port in the retainer may become clogged but interferes with the release of the brake on that car only when the retainer valve handle is in the retaining position and when found to be so clogged it should be opened up at once by means of a pin or fine wire.

The hand and air brakes work together. Taking up the hand brake when the air brake is set will cause it to retain the same power when the air brake is released. However, with the air brake set, if any force is applied with the hand brake, the forces acting against the wheels through the brake shoes will be the combined effect of the two. This may cause wheel sliding or damage to the brake rigging, and should never be done except in emergencies. Even the former method should be avoided when practicable as it is far more liable to cause wheel sliding than when the air brake alone does the holding. This is because the hand brake is rigid and makes the brake force momentarily higher around curves and over rough track; while the air brake provides a flexibility which largely avoids this trouble.

The effect of brake pipe leakage is that during an application of the brakes it practically takes

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"The Bad Man" Scores Well

Annual Theatrical Offering of The Delaware and Hudson Athletic Association Pleases Albany and Plattsburg Audiences

THE Bad Man," Holbrook Blinn's Broadway success, was presented to Albany audiences on the evenings of Wednesday and Thursday, February 18 and 19, by a cast representing The Delaware and Hudson Athletic Association, and in its wake there is to be heard only commendation of the professional atmosphere that prevailed throughout. For further comment such as this, the story carried by the *Albany Times Union* following the first night's showing, is quoted:

"'The Bad Man,' as presented last night in Vincentian auditorium by D. & H. employes, paradoxically proved to be a 'very' good man and made his audience captive to his bandit charms by such pleasing lawlessness as his Mexican mirth, 'greaser' gusto, and his satire on 'gringo' fair play.

"George M. Lawler in the name part of the Porter Emerson Browne comedy-drama, scored an instant success, his portrayal of 'Pancho Lopez' being high-lighted with the same brilliant touches and rich colorfulness that Holbrook Blinn brought to the original Broadway role. Mr. Lawler gave a delightful professional performance.

"Charles F. McOmber, in the role of 'Gilbert Jones,' young ranch owner, was convincing, and the anxious 'Uncle Henry,' played by Hugh F. Donnelly, added much to the play's rich comedy. John J. Crowley, as 'Morgan Pell,' whose meanness earned him the right to be the bad man's victim, was well cast, and Mary C. Dugan, as 'Lucia Pell,' the unhappy wife who loves the young rancher, gave a fine performance.

"Joseph Sandy, as 'Red Geddings,' and Ethel Walters, as 'Angels Hardy,' contribute more romance to the play, and Jeremiah Crowley, as 'Jasper Hardy,' adds well the touch of scheming to the play. Others in the cast were Frank A. Mooney, as 'Pedro;' John L. Langohr, Ann Murphy, William Dollard, Jr., and E. Nelson Colket, all of whom provided the Texas border atmosphere.

"It is more than an amateur performance; it is a real Broadway thriller."

On Monday evening, February 23, the show was presented to a Plattsburg audience that filled the Strand theater in that city to the doors, and created such an impression that a return engagement no doubt would receive the same popular reception. After reminding its readers of much that Plattsburg owes to "The D. & H." because of what it has done for the city in the past, the *Daily Press* of Tuesday, February 24, said:

"We are willing to admit frankly that whatever we may have looked for from the D. & H., it never entered our mind that we would be under obligation to the road for a splendid evening's entertainment with a cast that would not have been discreditable to a regular Broadway production. * * * Right here it might be said that should any member of the 'Bad Man' cast ever choose to adopt the stage permanently there is little fear of their having to 'count the ties' which was regarded as an essential part of the old-time thespian's training.

"The burden of the performance fell on the capable shoulders of George M. Lawler, who as Pancho Lopez, a bandit, who had all the gang froid which is supposed to have characterized the late Pancho Villa, together with a supreme indifference for the manner in which he disposed of those with who he became at all peeved. Mr. Lawler has evidently given a great deal of study to the part of the Mexican bandit whose pleasantries and politeness were so smooth and at the same time so double edged."

Due credit was given to other members of the cast and in conclusion, the *Press* said:

"Scenically, the production was beyond criticism and although the entire action takes place in a room in the ranch house it was in keeping with the best traditions of such places as we understand them. * * * It is safe to say that at any time this band of players return they are sure of meeting hundreds of friends they made last night. All seemed unpretentious in their demeanor, but they demonstrated that they had been carefully trained and intelligently rehearsed and knew exactly what they were about."

An Italian had been warned to beware of rattlesnakes, but being assured that they would give the warning. Next day he was eating his luncheon on a pine log when he saw a big rattler coiled a few feet in front of him. He eyed the serpent and began to lift his legs over the log. He had barely got them out of the way before the snake's fangs hit the bark beneath him.

"Son of a gunna!" yelled Pietro. "Why you no ringa da bell?"

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For a Better Understanding

COMMENTING upon remarks made by W. G. Besler at the nineteenth annual reunion of the Veterans' Association of the Central Railroad of New Jersey, of which he is president, the editor of *The Railroad Trainman*, in its December issue, editorially endorsed the principles of the veteran movement in the following words:

"The veteran movement has met with some criticism, which the writer knows to be wholly undeserved. When railway employes have been in the service of an employer for 20 years or more, and have had their own labor organizations there can be no suspicion of their purposes when they form an association that has for its chief aims the maintenance of good fellowship, the furtherance of friendly relations and to bring about a better understanding, not only between the employer and the employe but between the employes themselves.

"The writer has been fortunate in being privileged to attend reunions, or anniversaries, of these associations. No one without experience can tell of the pleasure and satisfaction that comes from a day spent with associates of 20 years or more, free from the stress of every day employment and with their wives and friends, who meet for their one general playday of the year to cement old friendships, make new ones and become better acquainted with each other.

"The writer believes in veteran associations, sees no possible dangers to the influence of their labor organizations, almost every veteran in the service of our American railways is a member of one organization or another, and believes that through the opportunity afforded the officers and their fellow employes, to meet on common ground, to know each other as men and not as employer and employe but men together, working for one company and one purpose, that of bringing about a better understanding, is a good practical way for establishing a community of interest based on mutual confidence that must be to the advantage of all of them."

A considerable portion of Mr. Besler's talk was devoted to reassuring his fellow veterans that whatever eventualities might develop in respect to railroad management, their organization never will lose its identity, saying, in part:

"No, my brother veterans, we shall not lose our identity.

"Fidelity to service insures continuity of service and employment. We will be just as certain and just as secure in any combination in which we may find ourselves, so long as we preserve pure and inviolate those principles which have brought us together as veterans in the service. Other organizations have sprung into existence, have had their rise, their fall, and have disappeared. Alone and only there will stand the organization of veterans surviving all storms and blasts.

"It must be so, it cannot be otherwise, because we are a self-perpetuating organization. The seed which is sown springs to life, ripens into full fruition, and falls, only to perpetuate itself in greater volume.

"So it is with this organization of veterans. We rise to our full fruition, and when comes the final, the seed we have sown follows in increasing volume in the places we have occupied, and so it shall always be.

"Thus the veteran movement which we have originated will go on, and on, and on, till time shall be no more.

"There will be no end!"

Fellowship

When a man ain't got a cent, and he's feeling kind of blue,
An' the clouds hang dark an' heavy, an' won't let the sunshine through;
It's a great thing, O my brethern, for a feller just to lay
His hand upon your shoulder in a friendly sort of way!

It makes a man feel queerish, it makes the tear-drops start,
An' you sort o' feel a flutter in the region of the heart;
You can't look up and meet his eyes; you don't know what to say
When his hand is on your shoulder in a friendly sort of way!

O, the world's a curious compound with its honey and its gall,
With its care and bitter crosses; but a good worl' after all;
An' a good God must have made it—leastways, that is what I say,
When a hand is on my shoulder in a friendly sort of way!

—*James Whitcomb Riley.*

Sketches of Early History

OLD SARATOGA

OLD Saratoga, one of many intensely interesting historic localities in the territory served by The Delaware and Hudson, now known as Schuylerville, lies along the Hudson river nine miles east of Saratoga Springs. It is reached by the Hudson Valley railroad, one of our subsidiaries.

As early as 1684, this hillside country bordering on the Hudson was sold by the Mohawk Indians to Peter Philip Schuyler and six other citizens of Albany, this grant being confirmed by the English government. As set forth in the Indian deed, it comprised a territory fifteen miles in length along the river, and six miles in width on both sides.

* * *

Let us stand beside the Hudson here at Old Saratoga and witness the 130 years of events that have given this locality a prominent place in the annals of this nation.

In 1646 we see Father Jogues and his companion, Sieur Bourdon, the first whites to view the site, as they are borne southward on the waters of the Hudson, a short time before the murder of that fearless exponent of the Christian religion. From here Indian trails ran north, east and west. For years prior to 1666, it was a meeting place for bands of Indians on their expeditions to plunder and murder the French settlers in Canada. In that same year, 1300 French under de Tracey came from Canada, through the lakes and by the Hudson, to Old Saratoga, thence via the trail to the Mohawk, where they inflicted a punishment upon the Indians that lasted for twenty years. In 1689, the braves of the Indian Confederacy took the trail to Old Saratoga on their way to Canada where they descended on Montreal with tomahawk and torch.

Late in 1689 we witness de Frontenac with ninety-six Indians and 114 French, leave the Hudson on their way to stage the massacre of Schenectady. Their return was via Old Saratoga.

On August 2, 1690, we view the Winthrop expidition against Canada quartered here for the night, and establishing a supply depot. Again, in 1693, the French, under de Frontenac, taking the trail here for the Mohawk Valley, determined to exterminate the Mohawks who, in 1689, had wreaked vengeance on Montreal.

A settlement of six or seven families vacated the site during the winter of 1689-90, probably on the approach of de Frontenac in his expedition against Schenectady. Hoping to encourage their return, by securing them against their enemies, Colonel Peter Schuyler erected a block house in 1690, and in 1703 the settlement appears to have become permanent.

Nicholson's first expedition against Canada in June, 1709, was preceded by Colonel Peter Schuyler, who erected Fort Saratoga on the east side of the Hudson to guard the ford, and who also cut through dense forests the first military road from Old Saratoga to Fort Edward, thence to Wood Creek. This highway felt the tread of all the armies from Nicholson to Burgoyne.

In 1711 we view Nicholson's second expedition, 3000 regulars, colonists and Indians passing on their way to conquer Canada. Neither of Nicholson's expeditions reached Canada, but returned through Old Saratoga to Albany, after burning the chain of forts north, thus leaving it the northernmost English military post.

Toward the end of November, 1745, we find here a prosperous pioneer community. Thirty dwellings, barns, graneries, flour mills, and a store. It is night! The people are suddenly aroused by the blood-curdling whoop of the Indian. The torch, tomahawk and knife do their deadly work. Marin's bloodthirsty allies have done their worst; the little community is blotted out, and among them Colonel Peter Schuyler, who scorned immunity at the expense of his neighbors.

Fort Saratoga was rebuilt in 1746, and rechristened Fort Clinton. In September, the same year, a party of de Montmagny's Indians caught a party of twenty soldiers outside the fort, scalping four and taking four prisoners. Then, early in March, 1747, thirty French and Indians attacked a detachment on its way to Albany, killing six and capturing four; the others fled. St. Luc's move against the fort later in the year resulted in the capture of forty prisoners and the scalping of twenty-eight others. Thus, Old Saratoga had more than its share of pillage and murder.

Then the Revolution. In the summer of 1777, the British undertook to carry out a well laid plan to sever the colonies and then conquer them. Accordingly, St. Leger was to approach Albany through the Mohawk Valley, a part of General Clinton's force was to advance up the Hudson, and Burgoyne, with the best appointed army ever landed on this continent, was to join St. Leger and Clinton at Albany. Confident of success, Burgoyne crossed the northern threshold and swept into the Champlain valley. Crown Point offered no resistance. On July 1, he stood with his formidable force before Ticonderoga, and at once fortified Mount Defiance from which eminence his guns commanded Fort Ticonderoga. Beholding Burgoyne's advantage, St. Clair withdrew from that fort under cover of darkness with the result that part of his army, marching toward Castleton, was overtaken at Hubbardton where an engagement followed. Non-combatants and supplies were moved under escort to Skeenesboro, by batteau. This detachment was also followed by Burgoyne and a considerable force.

Burgoyne's advance from Skeenesboro was obstructed in every conceivable way by Americans under General Schuyler, thus exhausting his supplies and men. Due to the destruction of bridges, the removal of corduroy and the felling of trees across the road, twenty days were consumed in covering the twenty-three miles to Fort Edward. The tragic death of Jane McCrea at the hands of Burgoyne's Indians contributed largely to the defeat. The story of her death aroused the country as her name was passed as a note of alarm along the Hudson and through Vermont.

On Saturday, September 13, 1777, this magnificent British force was before Old Saratoga. Six days later the first engagement, that of Freeman's Farm, was fought. The battle was furious, both armies advancing and retreating according to the tide, each exhibiting desperate valor. The day's losses were: Americans, 319; British, 600. Although indecisive, this clash at arms heartened the Americans to believe that they were a full match for their opponents.

Following this engagement, both armies changed their locations somewhat and strengthened their positions.

About 2 p. m., October 7, the second battle was on. The suddenness and vigor of the American attack disconcerted Burgoyne and his officers. The British, beaten at every point, abandoned the field hotly pursued by the Americans, leaving their artillery behind. The British loss was 700; that of the Americans, 150.

A council of war called by Burgoyne decided that surrender was the wisest course. The terms of surrender were duly signed on October 17, thus ending a bloody chapter in the history of our war for independence.

Gates' victory over Burgoyne marked a turn in the current of world events, and a change in the thoughts of nations. Full independence was at hand. America's long suffering people now were self-governing.

So here was fought, according to Creasy, a British historian, one of the fifteen decisive battles of the world. To commemorate the surrender of Burgoyne's army there stands on high ground a hundred rods west of the main highway and on the site of his fortified camp, a magnificent monument, 155 feet high and forty feet square at the base. Its upper windows overlook the battlefields and place of surrender, and command a view of the surrounding country of from ten to eighty miles in all directions.

The Marshall house, built in 1773 and located about a mile north of the village, is so intimately associated with the Burgoyne Campaign, that reference to it may properly be made here. Although rebuilt about 1868, the cellar and lower rooms are as originally built. It was used as a hospital for British officers. Frazier was brought here on October 7, 1777, mortally wounded, and died early the following morning. His body was taken at 6 p. m., October 8, to the Great Redoubt for burial. Believing the house to be Burgoyne's headquarters, the Americans cannonaded it from the hill opposite until a twelve-pound gun placed by the British rendered their position untenable.

As late as 1780, Old Saratoga was constantly exposed to frequent raids by Indians and Tories. During these times neighbors were obliged to huddle together until the danger was over.

(Lake George will be the subject of the next article in this series.)

What Six Percent Means

GIVE your little girl a thousand dollars on her first birthday anniversary, invested at 6 percent compounded semi-annually, and here is what time will do if the interest is reinvested:

At age 13 the thousand dollars will be doubled.

At age 17 when she graduates she will have $2,500.

At age 25 when she marries she will have $4,000.

At age 37 when she has children she will have $8,000.

At age 44 when her children are able to take care of themselves she will have $12,000 from which she will receive an income.

At age 65 when the wide world seems to forget one, she will have an independent fortune of $43,971.

If people would only save and let Father Time help them! For he is going to chase right along with them, just the same!

Evolution of Power and Power Transmission

(Continued from Last Issue)

Papin's Developments

NEXT of importance following Edward of Worcester, and Sir James Morland in the practical development and utilization of steam power was Dr. Dionysius Papin who was born in the middle of the seventeenth century in France and fled to England about 1681, shortly after which he became Curator of the Royal Society. During his occupancy of this position he was led to the invention of the "Digester" as a result of some experiments that he conducted for Boyle, in which he found that the vapor of boiling water, when confined, causes not only a pressure, but also an increase in temperature as the pressure increases. He applied this to a process for cooking meat and bones so as to extract nutritious matter that had previously been thrown away. His arrangement for this was a pot with a tight lid which was fastened in position, and further provided with a valve held to its seat by a lever and weight, so that excess pressure would automatically blow off. He thus became the inventor of the safety valve, but in connection with a steam engine that he built later, he used another device.

He conducted experiments and conceived the use of steam in cylinders on a condensing principle so that the vacuum thus produced would cause the piston to make a stroke in the opposite direction due to the atmospheric pressure on the other side of the piston. He had no separate boiler, and in order to produce steam he filled the cylinder partly full of water, to which he applied the heat of the fire. When sufficient steam was generated to raise the piston, the fire was withdrawn so as to allow the steam to condense, following which a vacuum was produced causing the air pressure to give the piston a return movement. The fire was then applied again and the operation repeated. While the application was crude, the principle was of the utmost importance. Not being a mechanic himself, and not being able to find anyone who could build such a machine so as to produce or hold a vacuum, he abandoned the attempts. His work was, however, another important step toward the real steam engine.

In 1687, Papin announced his invention of a system for transmitting power over long distances by what is now known as the pneumatic method, in which the creation of a vacuum at one end of a pipe system makes possible certain mechanical operations at the other end, or at intermediate points. He never applied the idea, but his invention was the germ of a practicable idea since applied.

While the attempts to construct a satisfactory steam engine had up to this time been more or less unsuccessful, there had been a great deal of progress made in regard to a better understanding of the nature of steam, and in developing some of the essential features of the steam engine. The creation of a vacuum by condensing steam was understood and there had already been invented the four-way cock, the safety valve and the piston-cylinder combination. It remained for someone else to combine them into an effective unit, but this was not accomplished until 1769.

SAVERY'S DEVELOPMENTS

The credit for having constructed the first steam engine that received a partial introduction to practical affairs, is usually credited to Thomas Savery, but little is known of his early history, except that he was born at Shilston, in Devon, England, about 1650, and was educated to be a military engineer. His early efforts were largely in the direction of an improved arrangement for driving the paddle wheels of a boat, which was in the form of a geared capstan connecting with the paddle wheel shaft. After several trials on the Thames the invention was dropped, due principally to the lack of interest on the part of the government and Savery's lack of funds.

He next turned his attention to the problem of pumping the water out of the mines of Cornwall, and, after a number of experiments, decided that it could best be done by steam. This subject occupied his attention for years and in the course of time he invented an engine for the purpose, which he had great trouble in constructing due to the lack of material, tools and men of sufficient training or experience in that kind of work, but at last he managed to get one built. Finally, in 1698, a patent was granted and in 1699 it was confirmed by an act of Parliament. After a successful demonstration in that year, he endeavored to introduce the device into practical use, but here again great troubles arose, due principally to a lack of interest generally, which was, perhaps the result of so many similar inventions having been tried without any success whatever. In 1702 he described his invention as the "Miner's Friend, or an Engine to Raise Water by Fire," which was a series of steam boilers, conducting vessels and tubes. The principal features were two large cylinders which were alternately filled with steam, and then condensed by means of a splash of cold water. This created a vacuum in each cylinder, alternately as the condensations took place, which vacuum caused the water from the mines below to rush up the vertical feed pipe, where it was forced out by another charge of steam to the cylinder preparatory to being condensed for the next successive cycle. An engine employed to raise a 3½ inch column of water 60 feet, required a fireplace 20 inches deep, but beyond these figures there is little or no record of the proportions of these machines.

Savery's engine was used with more or less success in pumping water from mines, but a great deal of trouble attended its use, so that with the introduction of Newcomen's improved engine shortly afterward, the Savery machine passed into the discard. It might be well to mention here that this engine was not a machine of pistons, cranks, or other moving parts such as were found in later inventions, but merely a suction machine using steam condensing cylinders to produce the vacuum.

Savery died in 1715 and while his machine never was generally adopted, his efforts represented very important development work for others who followed.

NEWCOMEN'S IMPROVEMENTS

The work of Thomas Savery in developing the steam engine was followed by that of Thomas Newcomen, an ironmonger and blacksmith of Dartmouth, England. How he happened to take up the study of steam is not known, but he no doubt was aware of the work of Savery who lived only fifteen miles away and was continually in search of skilled workers such as Newcomen. At any rate, the two men were working on the steam engine at the same time, although Savery was first in the field with some success before Newcomen took up the subject. He combined the two Papin vacuum principles and thus invented his steam engine, which became generally adopted for certain kinds of work.

The principle of Newcomen's engine is the condensation of steam in a cylinder fitted with a piston. This was accomplished by allowing steam to fill the cylinder during the upward movement of the piston, which upward movement was caused by the weight of the pump machinery at the other end of the rocking beam. The application of a jet of cold water in the steam filled cylinder produced a vacuum and immediately caused the atmospheric pressure on the other side of the piston to return the piston to the other end of the stroke. This provided regular reciprocating motion which was applied to water pumps, but the crank and crank shaft with connecting rods had not yet been invented. This machine of Newcomen's, however, did much important work for many years during the eighteenth century, and was not displaced until Watt invented the real steam engine in 1769.

Leupold, about the year 1720, published his works "Theatrum Machinarum" and among other things he describes the four-way cock for the purpose of admitting and exhausting steam to the cylinders of his steam engine. This engine was of the high pressure type, that is, it was designed to operate by direct steam pressure against the piston and without any condensing features. In this respect Leupold's engine design was the forerunner of a type of steam engine that did not appear until after Watt's condensing engine had been fairly well worked out, but this is probably due to the fact that no safe way to generate steam under higher pressures had at that time been worked out. The development of the steam engine by Watt, later on, gradually brought forth the higher pressure boilers that were necessary for engines of Leupold's design.

(To be continued in Next Issue.)

MEN must work for more than wages, factories must turn out more than merchandise, or there is naught but black despair ahead. If material rewards be the only measure of success, there is no hope for a peaceful solution of our social question. But such is not the case. Men struggle for material success because that is the path, the process, to the development of character.—*Calvin Coolidge.*

Out Along the Line

Local newspapers published in towns and cities along The Delaware and Hudson frequently print items concerning the Company, its road or its employes that may be of general interest to our readers. THE BULLETIN would be glad to receive all such items. Kindly clip them and send them, by Company mail, to Room 1005, D. & H. Building, Albany, N. Y.

* * *

Upward of 160 persons attended the dinner-dance of Daniel Hopkins Lodge No. 1, Brotherhood of Railroad Trainmen and its Ladies' Auxiliary of Oneonta, held in Knights of Pythias hall in that city on Monday evening, February 23. Mayor W. Irving Bolton and City Attorney Frank C. Huntington were the speakers. Music for the dance was furnished by the Bon Ton orchestra of Oneonta. The event, in every respect, was rated as one of the most enjoyable in the history of the organization.

* * *

Plans are well under way for the First Annual Dance of The Delaware and Hudson Veterans' Association of the Susquehanna division, which is to be held in the State armory in Oneonta on Saturday evening, April 18. Music will be furnished by the Bon Ton orchestra of that city, which recently won high favor with the radio audience of the country, as the result of its offerings in connection with the program of WGY, the General Electric Company's broadcasting station at Schenectady. The dances will be so arranged as to provide a choice of steps for all who may attend. E. Laler, assistant trainmaster, is chairman of the committee making the arrangements.

* * *

A first and a second team, each composed of bowlers selected from the teams of the Albany-Colonie Bowling League, will participate in the Twenty-fifth Annual Tournament of the American Bowling Congress at Buffalo, on the evenings of March 16 and 17. The teams will leave Albany on Sunday, March 15, and it is expected a number of "rooters" will accompany them. On the first evening, they will enter the five-man events, and on the following evening the members will roll individually and in two-man teams.

The first team boasts of such stars as ANTHONY BLAISING of the Revenues; "BEAR" BEALE, Car Department; HUGHIE WILLIAMS, Transportation; "BOB" IRISH, Motive Power; and, O. H. FAUS, of the Paymasters; and the second team, ARNA J. FERRIS, of the Revenues; J. R. LANGOHR, Purchasing; ELMER RAGOTZKIE, Transportation; ROBERT GIMBERLING, Traffic; and, RALPH RICHMOND, Generals.

The Air Brake and its Work

(Continued from Page 6)

the proper control of the train away from the locomotive during the time that the engineer's brake valve is on lap position, thus causing the brakes to set harder than intended, and may cause wheels to slide. During the time of application it is entirely a question of loss in pounds of pressure per minute out of the brake valve regardless of the volume, while the effect when releasing brakes is a question of both volume and rate of leakage to be overcome, in order to create the necessary differential of pressure on the triple pistons in order to move them to release position and avoid stuck brakes which may lead up to overheated, broken, or slid-flat wheels.

In order to avoid wheels sliding as much as possible, trainmen should watch for hand or air brakes left applied, or air brakes sticking, when re-coupling after a cut has been made in trains at crossings, for cars picked up or set out, stops, or after "slow-downs" in which the brakes have been lightly applied and while pulling into or out of sidings.

Engineers should ever bear in mind the possibility of brakes sticking and wheels sliding following light applications or when making couplings, particularly if the brake valve is not handled properly and avoid trouble through these causes.

Air Inspectors in dispatch yards should adjust all piston travel to between six and eight inches so that the brake lever adjustment on both trucks of each car is about equal and the brakes apply and release properly, and that brake pipe leakage is kept down to the minimum (six pounds per minute) and as much lower as it is practicable to reduce it.

Investments

GOOD things as a rule are not cheap and cheap things are seldom good. Quality is remembered long after the price is forgotten.

Cheapness that looks like economy today becomes the dead loss of tomorrow. Many a real investment made after much "hemming and hawing" and regarded as expense will produce the big profits of the future.

The concern that deserves and will eventually get your patronage is the one that operates under the law of mutual benefit, the principle of business success by which both buyer and seller make a profit out of every exchange.

—*The Pilot.*

A small man may make a big job shrink, but it takes a big man to make a small job grow.

Satisfied With Railroad Career

(Continued from Page 4)

black bands wound alternately. Further, in respect to the decoration of locomotives, he recalls the efforts that were made when the floral pageants at Saratoga Springs were at their height. The locomotives of many of the passenger trains running to the Spa, were virtually covered with flowers and bunting and a most fascinating spectacle to look upon.

In a little more than three years from the time when he went firing, or on October 22, 1882, he realized his much coveted ambition—that of sitting on the right side of the cab as master of the throttle. His first pay as an engineer was $70 a month; the second year it was $80; and the third, $90. The number of trips that were made did not enter into these calculations as a mileage basis of pay had not been adopted.

He made his first run with the "Otego," a straight-boiler Cook locomotive, in pusher service between Delanson and East Worcester. The road was double-tracked only from Delanson to Central Bridge, and from Cobleskill to Richmondville. There were many wooden trestles then in use, that were reinforced with iron later on and eventually the depressions they spanned were filled in.

One of the biggest days in his life was when he took out the first culm burner to be built at Schenectady for the Company. It was one of the 300 class, since renumbered in the 700 class, and was the biggest thing in locomotives then in use on the road. He recalls the crowds that would gather near the viaduct in State street, Schenectady, and marvel at its size as it passed.

Of mishaps, he had a few although none proved serious in a physical sense. The worst of these, perhaps, occurred near Shearer's quarry, about a mile and a half north of Duanesburg. He had left the station on time with No. 72, a train of fifteen cars, and near the quarry saw in the distance, over an elevation of ground, the cupola of a caboose. As he rounded a curve, he reversed his engine and blew for brakes. As a pre-arranged signal for his fireman to observe in emergencies, the second time he blew the fireman was to look out to determine the nature of the trouble, while a third sounding of the signal was to be a warning to him to jump. CHARLIE BRANDT, now retired, was his fireman on that particular run and as he leaped to safety he became so entangled in a wire fence that it was necessary for other members of the crew to go to his rescue.

In the collision that followed, the caboose was telescoped and, when all was over, was left burning on top of the locomotive cab. A car loaded with steel rails was next to the engine and, as this raised up, some of the rails were thrust through the steam dome making a serious condition all around. An effort was made to extinguish the fire in the caboose, while MR. CARROLL, who had jumped when he realized that a crash could not be averted, dumped the fire in the locomotive. His greatest personal loss was a very fine imported overcoat for which he had a strong fascination. Other members of the crew were William Van Woert, conductor, and "JIM" GALLAGHER, baggageman.

With the exception of some pusher service between Delanson and East Worcester, two years in freight service between Mohawk and Oneonta, two years with a pusher on Esperance grade and three seasons when he ran a passenger train between Schenectady and Cherry Valley, all of his running was done on the Schenectady branch. For the greater part of that time, he was with CONDUCTOR THOMAS SHATTUCK on trains Nos. 22-23, 82-83 and 386-389. Occasionally, meanwhile, he did some switching in the Schenectady yards, but he never cared for that kind of work.

He was married October 22, 1885, to Miss Ellen Welch of Schenectady. To them seven children were born, five of whom are still living. He is a member of the Brotherhood of Locomotive Engineers of forty-five years standing, and is the possessor of one of its badges given in recognition of such affiliations. The church of his faith is the Roman Catholic and he is a regular attendant at St. John's The Evangelist, of Schenectady.

The Way You See It

ANY old time is winter
If you're willing to see it that way;
The frost in the heart is the frost that chills
'Till the world is dull and gray.
You may shiver all day and be shivering still
When you go to your restless couch;
For the days go slow through the ice and snow
For the fellow who's nursing a grouch.

Any old time is springtime
If you're willing to help it along;
Any old day is a holiday
If you'll furnish the laughter and song.
The birds can't be singing always;
The blossoms can't bloom without rest;
But there's hope and there's light
And the world seems bright
For the fellow who's doing his best!

It is not absolutely necessary that an education should be crowded into a few years of school life. The best educated people are those who are always learning, always absorbing knowledge from every possible source and at every opportunity.

Forty-Year Club Entertains

By J. T. CONNERS

THE postponed meeting of the Forty-Year Club, an informal association of Delaware and Hudson Veterans, was held at the R. R. Y. M. C. A. rooms in Broadway, Albany, N. Y., Friday evening, February 20, and was attended by fourteen members, their wives and others from their immediate families, as well as a large number of friends.

L. F. Perry, assistant to the general traffic manager, was master of ceremonies, and, at the beginning, outlined briefly the objects of the club and talked enthusiastically of its plans for the future. In doing this he mentioned the fact that the veteran was much better provided for now than was the case fifteen or twenty years ago and stressed the policy of the present Management in safeguarding the future of the widows and children of employes through its liberal plan of Group Insurance. **Edward** and **Harry LaPerche**, the former assistant supervisor of wages and working agreements, then delighted all with vocal and instrumental selections.

Smith Philley, agent at Glens Falls, who was to have given a talk on the pilgrimage made by the club last fall, was unable to be present on account of illness, and **F. E. Vosburgh**, agent at Albany, moved that the secretary be instructed to tender him an expression of sincere regret at his enforced absence.

W. J. Coughtry, who made the first annual pilgrimage, recounted some of his impressions of that delightful sojourn in historic Adirondack country, interjecting a few personal reminiscences that were very amusing, indeed. He spoke of the valorous deeds of **Martin Kane**, superintendent of the General Office Building at Albany, while at Bloody Pond, and of the Patrick Henry attitude of **W. E. Anderson**, assistant engineer, who was evidently much inspired by the surroundings, as he vividly portrayed numerous battles in which he might have been engaged had he been on the spot at the time.

The Rev. Dr. Harmon of Ticonderoga was the next speaker introduced. He was accorded a most royal welcome because of the many courtesies he had extended the members of the club when they passed through his historic village last fall. With splendid tact he carried his hosts on a descriptive tour to Quebec,

Up where the tall trees proudly lift
Their tops to the azure sky
And changing shadows idly drift
In the limped lakes nearby.

Through scenic beauty, among quaint environs and ancient buildings, each picture unfolding new delights and interesting sights, he conducted his "party" with such preciseness that it was almost possible to sense these surroundings in all their realness. His was a most delightful and instructive entertainment.

The reception committee for the evening included **W. E. Anderson**, **D. F. Wait**, **F. E. Vosburgh**, **J. T. Conners** and **J. L. B. Sunderlin**.

Carbondale Yard

IN the cover study for this issue of THE BULLETIN it is possible to give our readers only a partial view of the yard at Carbondale, looking north from Dundaff street. Located as it is at substantially the extreme north end of the Lackawanna coal basin and, for this reason, being the concentration point for all northward bound anthracite passing over the road, as well as the center of distribution for empty cars returning to the collieries for re-loading, it constitutes one of our most important operating facilities.

Th original yard was established in 1872 and subsequently enlarged during 1888, 1895 and 1889 by the addition of new tracks wherever the topography permitted. During the period of 1914-17, it was again enlarged and re-arranged in its present layout. The changes necessary involved the re-location of the channel of the Lackawanna river, the leveling of a large section of hill lying to the west of the former yard, and the removal of the old Erie yard. The Simpson viaduct, eliminating a grade crossing, was built as a part of this program and in October, 1917, the new main tracks at the east side of the yard were opened to traffic.

Although generally the yard is considered as beginning at the passenger station, or Eighth avenue, it actually extends north from Dundaff street, which thoroughfare was spanned by a modern viaduct during 1924, where the "spread" of tracks begins, to a point just north of the Simpson viaduct and has an extreme length of 7,200 feet. Including 6.6 miles of main track, there are approximately 50.1 miles of track with a capacity of approximately 3,139 cars, an increase of 49.48 per cent over its former capacity. The grade varies from 1.39 per cent at the north end to 0.56 per cent at the south end, descending in a southerly direction. Advantage of these grades was taken in laying out the yard in order provide simple and economical operation.

Included in the long list of morbid or pathological fears are monophobia (fear of being alone), agoraphobia (fear of open places), claustrophobia (fear of closed places), astraphobia (fear of thunder and lightning), aerophobia (fear of airy places), pathophobia (fear of disease), mysophobia (fear of filth), necrophobia (fear of death), ereutophobia (fear of blushing), metallophobia (fear of money), aichmophobia (fear of points), and potamophobia (fear of water). The "phobia" in these words is derived from the Greek word phobos, which means fear.

Clicks from the Rails

Let's boost—

* * *

Our road and make it—

* * *

Just what we think it ought to be—

* * *

For really: if you want to work for the kind of a road, like the kind of a road you like, you needn't slip your clothes in a grip and start on a long, long hike; you'll only find what you've left behind, for there's nothing that's really new; it's a knock at yourself when you knock your road—it isn't your road, it's you

* * *

More than 41,000 employes of the New York Central from every grade, availed themselves of a recent opportunity to subscribe to the company's stock at $110. These subscriptions amounted to 96,900 and increased to 78,000 from 35,000, the number of the road's stockholders.

* * *

Abandonment of two short stretches of track by the Central New England Railway company has been authorized by the Interstate Commerce Commission. One line of 7.75 miles is between Shekomeko and Millerton, Dutchess county, New York, and the other is between Ancram Lead Lines and Boston Corners, Columbia county, New York.

* * *

"Efficiency in the handling of freight," says the Meriden (Conn.) Record, "is a national asset and if by using more efficient methods of handling and routine the roads are enabled to accomplish more work with less rolling stock, the resulting reduction in per capita overhead will directly benefit the entire nation in quicker deliveries, and, perhaps, in the future, lower freight rates in proportion."

* * *

There was only one railway accident in England during the year 1923 which involved the loss of life. This was at Diggle, on July 5, when two passengers were killed. Since the beginning of the present century there have been two years—1901 and 1908—without a single fatality each. In only three years have more than five people been killed and in twenty-three years the number of deaths has reached a total of but 73.

* * *

Residents of Quincy, Mass., are planning a centennial celebration in recognition of the first railroad built and operated in the United States, a line opened from West Quincy to tidewater at Neponset, October 7, 1826, over which was transported the granite used in the building of the Bunker Hill monument. Its ties were of granite, its rails were of pine or oak covered with bars of flat iron, and its cars were drawn by horses.

* * *

When the Philadelphia and Trenton railroad was chartered in 1832, both law-makers and promoters must have thought that it might be necessary to continue the primitive means of transportation then in vogue. This is evident from the fact that the company was authorized: "To place on the railroad machines, wagons, vehicles, carriages, and teams of any kind, and to transport goods and passengers, said road to be a public highway for conveyance of passengers, and transportation, under rates to be charged by the Company."

* * *

A wife and three children for sale! This tender custom of selling a man's wife and children as slaves, if he became totally and permanently disabled was carried on in England in the Middle Ages. It was done to satisfy the people he had become indebted to. We of today happily know nothing of such customs. But unless we provide for the future of our loved ones, incapacitation or death may actually place them on the mart where the world exacts its own terms. Group Insurance, such as is offered by our Company, will go far, however, toward precluding such a possibility.